

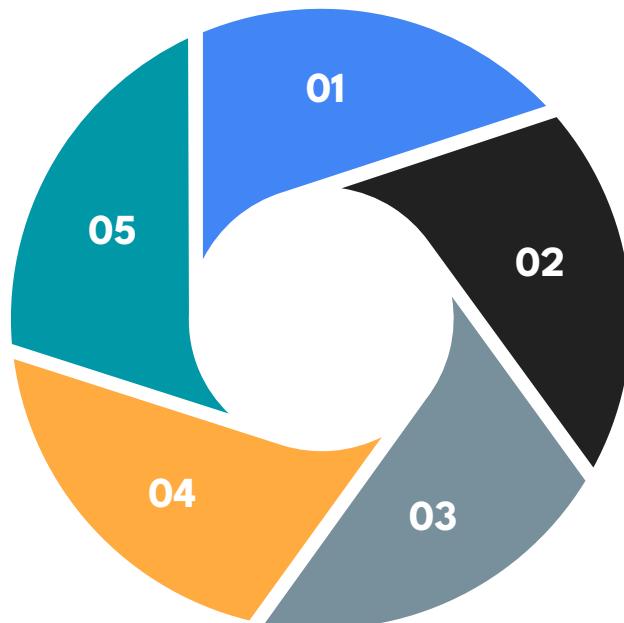
# Bangkok Housing

Property Finder Application



# Executive Summary

Addressing the growing demand  
for affordable housing in the city



The platform will be user-friendly and efficient

The proposed platform aims to  
improve access to affordable  
housing in Bangkok

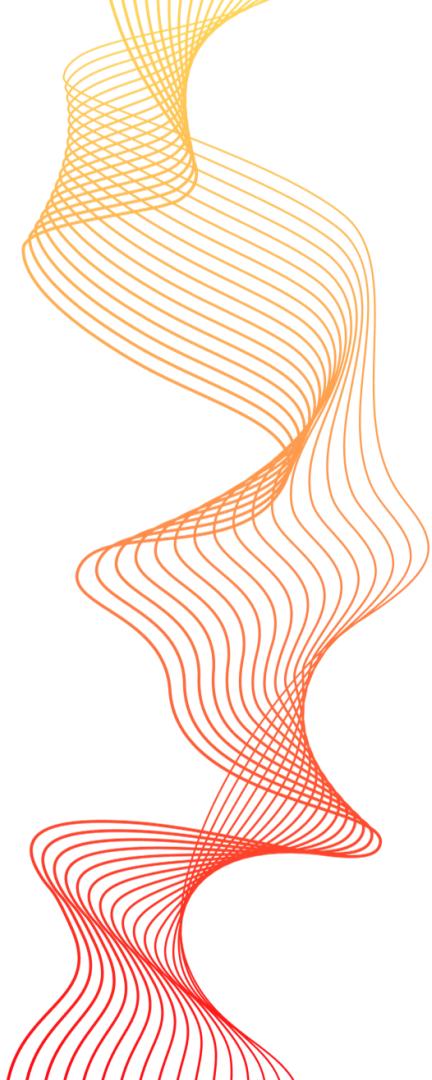
It will provide a practical,  
sustainable, and quality-driven  
solution

Caters to the needs of lower-income residents



# Business Problem

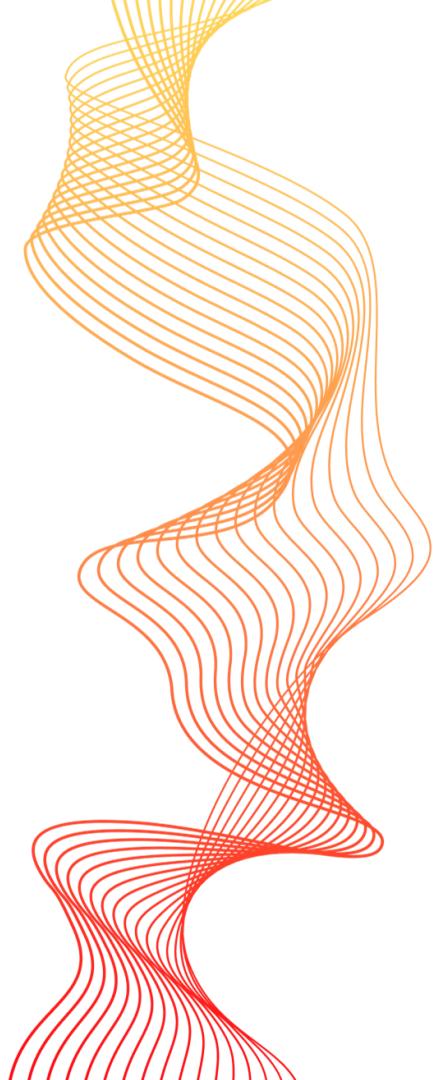
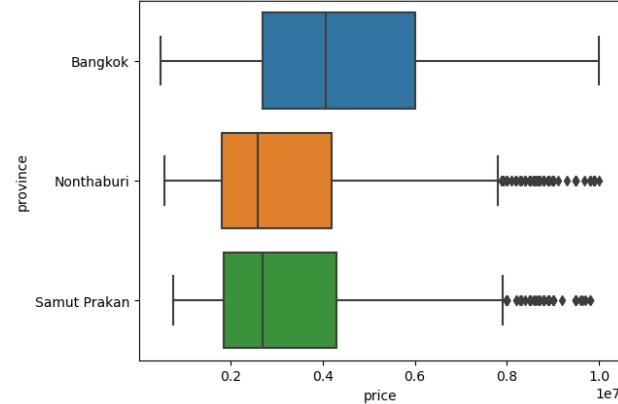
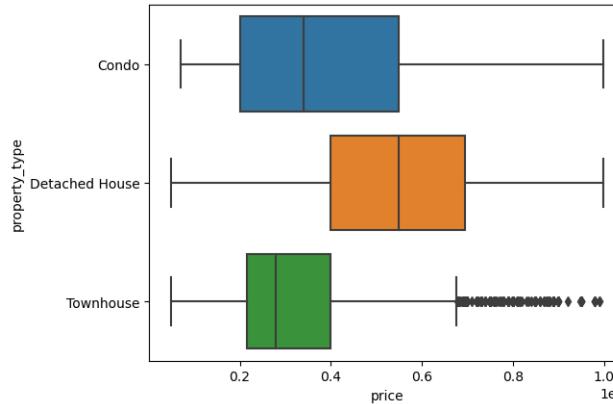
- Which property type is affordable
- Location is suitable for those residents
- Any nearby property (BTS, MRT, bus station, etc.)





# Data Pre-processing

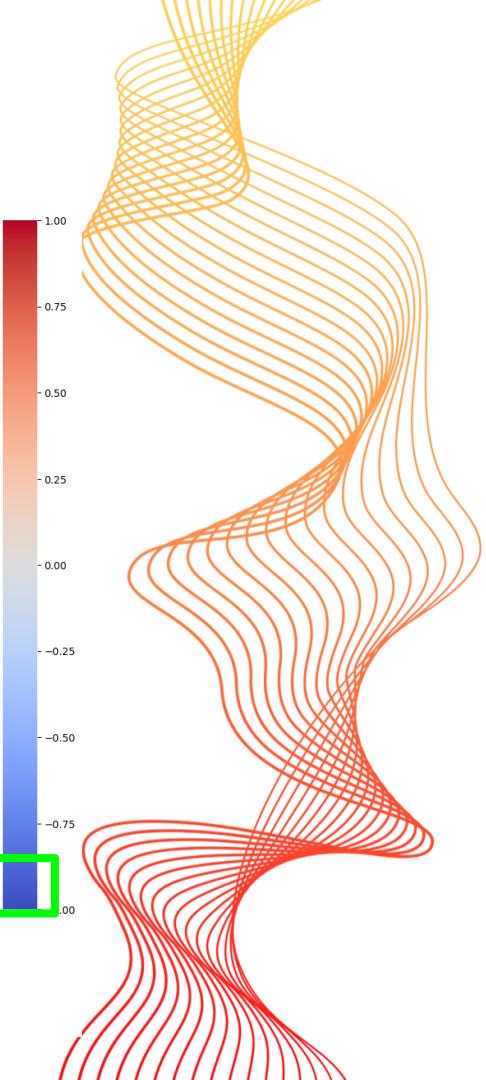
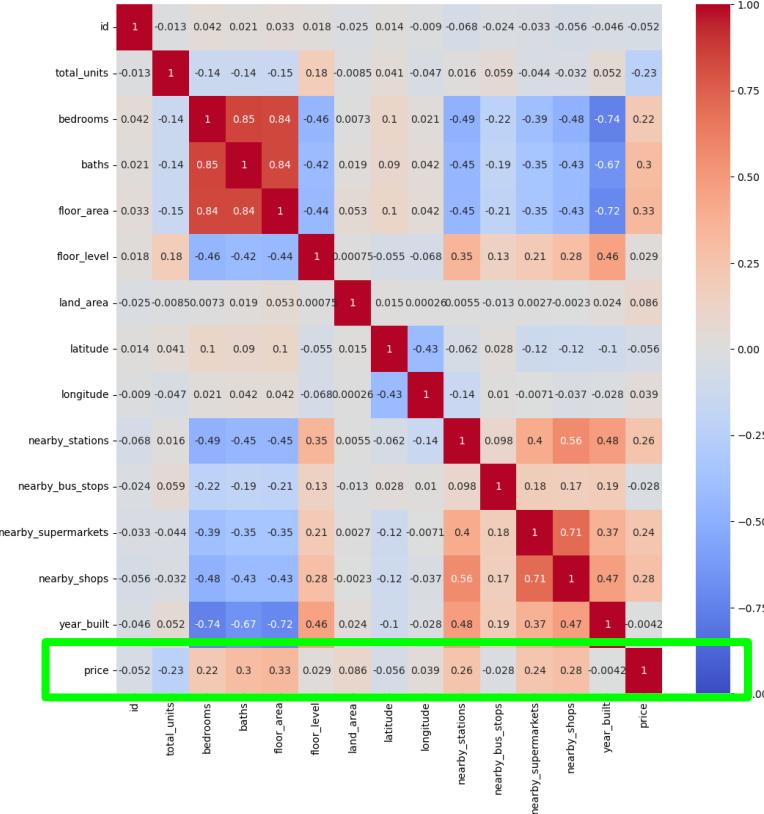
- Deal with Missing data
  - Random Integer
  - Interpolate, and then round value
- Drop outliers (only train data)
- Misleading Data (subdistrict)
  - Property name
  - Replace from district data which contain subdistrict



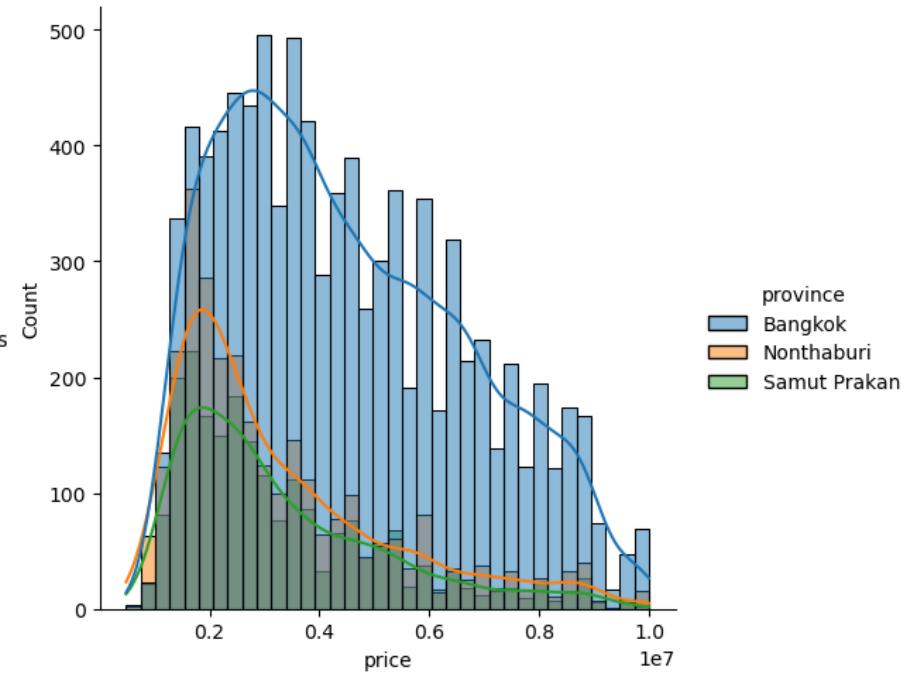
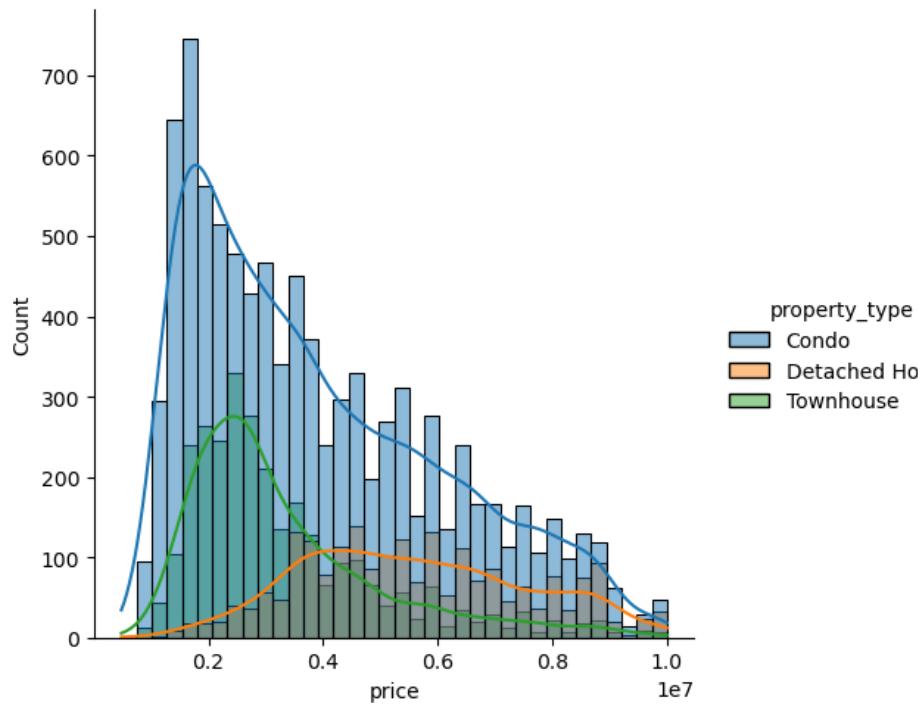


# Correlation & Key Features

1. subdistrict
2. property\_type
3. bedrooms
4. baths
5. floor\_area
6. floor\_level
7. land\_area
8. nearby\_stations
9. nearby\_supermarkets
10. nearby\_shops
11. price (Key Feature)



# Price by Property Type and Province



# Model Development Process

| Model            | RMSE Score (m = million) | Features  | Optimized                      |
|------------------|--------------------------|---|--------------------------------|
| Ridge Regression | 1.9576 m                 | District, and other features, except latitude, longitude, and nearby station distance     | without standard scaler        |
| Ridge Regression | 1.2578 m                 | Sub Districts and other features, except latitude, longitude, and nearby station distance | R_alpha and standard scaler    |
| Lasso Regression | 1.2577 m                 | Sub Districts and other features, except latitude, longitude, and nearby station distance | Best_alpha and standard scaler |



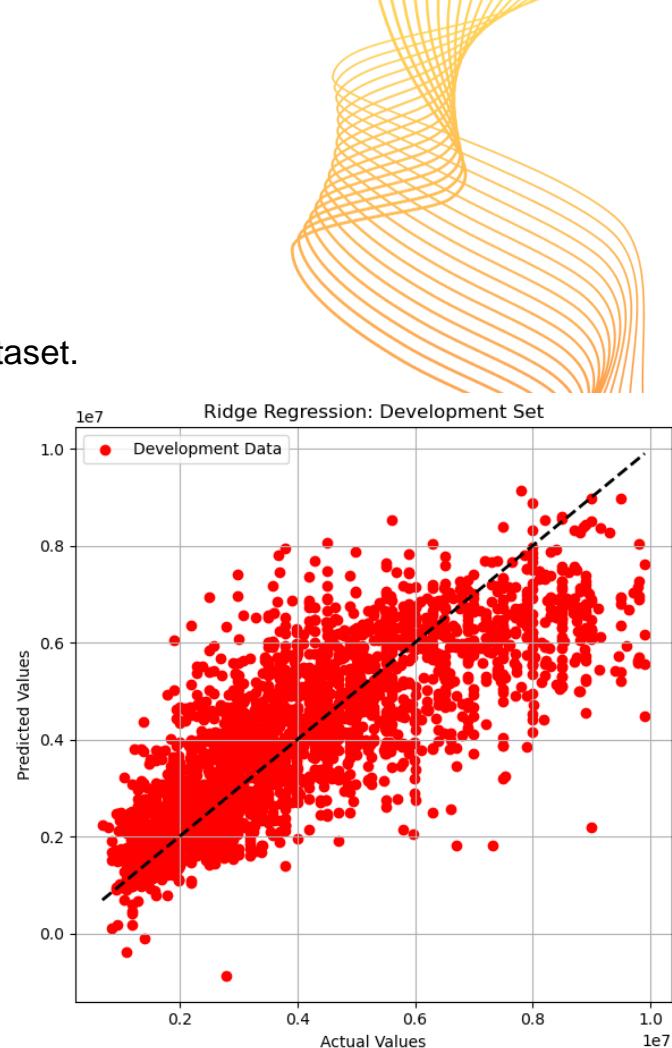
# Model Evaluation

## Ridge Regression Model

- Use the trained model to make predictions on the test dataset.
- RMSE: 1.2578 m
- R-squared (R<sup>2</sup>) Score for training data: 0.694
- R-squared (R<sup>2</sup>) Score for development data: 0.647

## Lasso Regression Model

- RMSE: 1.2577 m
- R-squared (R<sup>2</sup>) Score for training data: 0.693
- R-squared (R<sup>2</sup>) Score for development data: 0.647





# Conclusion

In conclusion, the application helps people to find affordable range around 2.5 million to 4 million Baht depend on in this following:

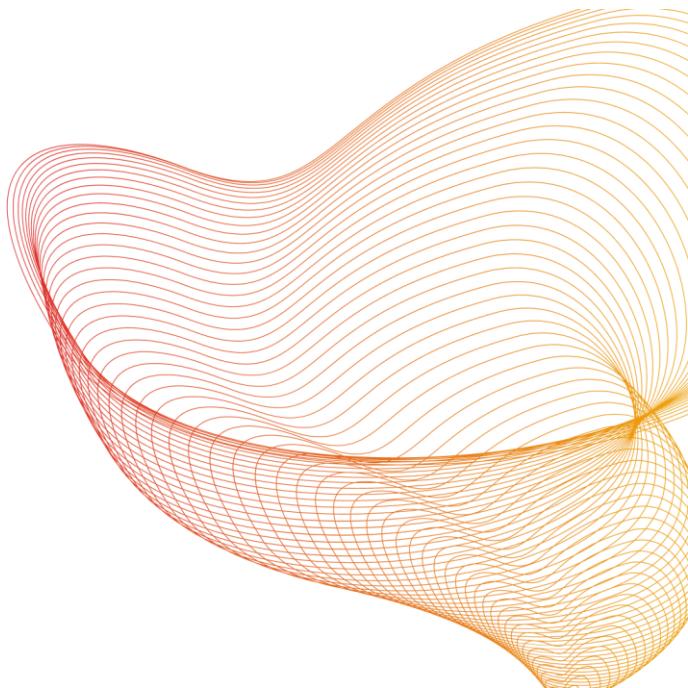
- How large of land area (house and townhome), floor area(condominium)
- The location (subdistrict) that influence the price such as Wattana and other high population is high price, but other areas are much more cheaper.
- Floor level at Condominium can influence price because if higher level is much more expensive.





## Recommendation

- Comparing price between user's interested locations
- Conduct market research for property type matching
- Integrate financial range and income calculation feature





Thank you for your time and attention 😊